INVENTION TITLE

COMPUTER-IMPLEMENTED ADAPTIVE MODULUAR RISK MANAGEMENT TRADING SYSTEM FOR PROFESSIONAL EQUITY TRADERS

DESCRIPTION

[Para 1]   BACKGROUND

[Para 2]   This application incorporates marketing materials related to CYBERTRADER®, currently licensed to Schwab and its subsidiaries. These materials are incorporated herein for all purposes which are included in Appendix B.   This application refers to an analytical program called STOCKO, developed by Dr. Robert Levinson of Santa Cruz, CA. Information regarding the STOCKO platform has also been made available to the public through several Internet sites since 1997, including www.clearstation.com, www.i.exchange.com, www.stockscience.com and www.drstocko.com, all of which are fully incorporated by reference, for all purposes.

[Para 3]   SUMMARY

[Para 4]   The present invention provides the Cybertrader (CT) user the ability to offer their active trader clients a trading system which would scientifically reduce their risk, while simultaneously increase their trading volume. The present invention provides an advantage to an implementing entity because in the electronic brokerage industry, the real fight among competitors is over the tiny percentage of active traders who trade huge volumes of stocks on a daily basis and who generate significantly in excess of 50% of any given firm's trading volume.

[Para 5]   DISCLOSURE

[Para 6]   The present invention takes advantage of some assumptions that vary from embodiment to embodiment. For example, consider the assumption that the market is not obligated to behave as it has in the past. The consequences of this is that even the best systems will probably stop working at some point and will probably only be profitable under conditions or environments where conditions are defined as data

1

from external or internal scenarios and environments are defined as actually trading system or entity. With added complexity, adaptive systems should be able to remain profitable.

[Para 7]   In an extreme result of Assumption number two is that the market may, at times, exhibit quote inside pattern" or pattern cancellation behavior so that it appears to purposely break and or punish past useful patterns beyond what a purely random market might do.

[Para 8]   Given proper normalization in a canonization of past data, all securities in all-time frames exhibit behavior that is useful in helping to be date a future price movement had given time. For example IBM's trading day tomorrow may resemble the any at index 255 days ago, especially if it's from analogy can be established between their current and underlying technical environments.

[Para 9]   Despite these similarities after normalization security are index may Onset exhibit characteristics and resonance that are essentially their own and signature.

[Para 10]   Any market forecasting system must be complex enough to model a large and it's of technical training strategies at varying time frames in order to simulate the habits of populations of traders that follow, or appear to follow the strategies.

[Para 11]   Given the security certain forecasting strategies will have to be approved to be more useful than others at predicting a recent stock behavior.

[Para 12]   A stock forecasting strategy can never be very bad since its very badness can be exploited by trading and contrary to it. The only useless feature is the forecasts are those that are essentially random. However perversely some features may manage to change their success as soon as they're exploited;   these features that must be ignored or avoided or exploited when properly recognized.

[Para 13]   Combining the above assumptions, forecasting in the analytical component in the alternative present invention developed as a function of: A.) the past price behavior of the stock; B.) relationship to other securities in similar scenarios and; C.) the relative success of various features at predicting correctly are incorrectly recent

price behavior. These features may come from traditional technical analysis box General and cast their time series analysis another design feature and expertise modules as live has features and over fitting in the avoided, adding features to the system should improve performance and along one was the system becomes adept at using such features. Additional aim the revenue often success as insiders are the individual features the South may be needed as securities for which forecasts become element possibly at a meta-level.

[Para 14] The "Metropolis" simulates the annealing strategy of "heating up" (to encourage innovation), a system that is doing poorly and "cooling," a system that is doing well. This added randomness should keep systems out of ruts created by any particular mal-feature behavior;

[Para 15] The quality of the present invention is partially dependent on the quality of the input. Choosing from a large number of more specifically targeted inputs to populate the parameters, which include the factors and the set of operators that will be used. The major obstacle to making the selection was that there literally tens of thousands of possible candidates for inclusion in any particular model. The present invention obtains a complete global data set for research but alternate embodiments can use a reduced set. In particular embodiments, the initial data set is chosen from those data items which are best suited for the general stock forecasting needs, as opposed to being limited to mutual funds or other items. The inputs are most closely correlated to the expected price movement of the basket stocks. These inputs consist of other stocks in the same industry as some of our target stocks, market indices, sector indices (such as SOX) and certain commodity prices and fixed income futures prices.

[Para 16] The brokerage industry knows that the forecast frequency needs to be dynamic. For example, a single forecast for each day might possibly not generate enough added trading volume to make our product attractive to the brokers. One of the strategies developed for particular embodiments of the invention was to license the product to major re-distributors such as Charles Schwab, other large electronic brokerage firms, E-Signal, and other large vendors of raw price data for them to, in turn, provide the inventive product to their client base and pay accordingly. It was commonly thought the invention would best be licensed by simply creating a website and charging

3

users on a "per hit" basis. However, real monetary reward was to come from the re-distributors as they saw the as first as a competitive advantage and later as a "must have" item to match the competition.

[Para 17] The environment may possibly include a real-time forecast feed which would increase the frequency of predictions is directly related to the inclusion of the "decision factors" of choosing. Prior to the inclusion of these "real-time" factors, the prior art system was more reactive than proactive to make the brokerage firms' clients more profitable (or less unprofitable) and to stimulate trading activity. These changes and additions were required to both the inputs, outputs and timing thereof. Instead of simply producing "Buy", "Sell", "Hold" recommendations, the invention uses **actual dollar prices**. The invention also to forecasts price movements for each stock, complete with direction of movement, magnitude of movement (both in % and in dollars), and confidence of movement.

[Para 18] These features allowed a trader to, for example, see a stock with a predicted dollar price change of 75 cents, see the percentage change that that dollar price change would equate to, AND also see a confidence level of, for instance, of 8, on a scale 1-10. The feature was a next development to day traders allowing them to make sufficient profit by trading only those stocks with the highest confidence level.

[Para 19] The output of the present invention ranked the stocks by confidence level, both on the buy side and on the sell side. In addition to the price movement forecasts, scientifically generated stop-loss and take-profit levels were published. This is a huge improvement over the rather casual and unscientific techniques employed by most day traders. From the brokerage firm's perspective, these features were a great enhancement in that it increased the odds of their clients remaining solvent, thereby increasing the life and activity of the account. The stop-loss and take-profit levels of the invention were also adjustable to accommodate the particular client's risk preference. More detail on this feature and its value are discussed below.

[Para 20] BRIEF DESCRIPTION OF THE DRAWINGS

[Para 21]   FIG. 1 illustrates the basic interactive components of the predictive advisors;

[Para 22]   FIG. 2 illustrates sample data flow in a simplified embodiment;

[Para 23]   FIG. 3 illustrates a sample data flow and functional in the present invention;

[Para 24]   FIG. 4 is an architectural implementation of the of the invention as it may be implemented on Cybertrader®;

[Para 25]   FIG. 5 is a flow diagram of the operation selection;

[Para 26]   FIG. 6 is an alternate view of the data flow in a preferred embodiment of the invention;

[Para 27]   FIG. 7 is an illustration of the factor adjustment system;

[Para 28]   FIG. 8 is a screen shot of an implementation of the present invention;

[Para 29]   FIG. 9 shows the set up of the stop-loss risk control trading system; and

[Para 30]   FIG. 10 shows the risk control trading system with the data flow in an override.

[Para 31]   DETAILED DESCRIPTION

[Para 32]   Referring now to FIG. 1, a functional diagram of the present invention in a particular embodiment is shown.   The implementation of the invention is often on an end-user's back-end software application, which is generally their own proprietary software or a modified off-the-shelf solution.   The data is moved from the proprietary software backend to base-level prediction system connected is a series with **base level advisers**. Although only six advisers are shown in the diagram, as can be appreciated by those skilled in the art, different types and configurations of advisers at the baselevel can be included in different environments of the invention which are discussed below and shown in Appendix A.   In a preferred embodiment, due to the fact that active traders require as much "executable" information at their fingertips as possible, an

5

embodiment of the invention operates in its own window on the CT Windows-based platform which allows the trader to always have immediate access to the most current forecasts for their stocks of interest, and could execute immediately from the same screen.

[Para 33] In another embodiment for high wealth, but less active clients, the invention allows transmission for end-of-day forecasts along with the account summary sent out to Schwab's or other brokers clients nightly. This would allow the investors to review their holdings nightly (as about 85% of individual investors do, according to several studies), make decisions about their actions for the next day, based in part on our forecasts for their specific holdings, and input trade orders that night, to be executed at the open of the market the next day. Such users would also have the ability to require a specific price for their orders, if they preferred a limit order to a market order. Embodiments of the present invention may include several sophisticated techniques and features which addressed the active trader market specifically and increased the likelihood of their extended viability by increasing their profitability and reducing their risk.

[Para 34] Therefore, the present invention includes a tolerance adjustment feature which would allow the user to determine their own **risk profile**. In a preferred embodiment, there would three categories of risk: Low, Medium and High, but other types of organization for risk profile could also be used. Each level would have an automatically triggered stop-loss or take-profit associated with it. For example, a High risk profile client would set their take-profit trigger at 100% of our predicted magnitude and set their stop-loss trigger at, for instance a decline of 50% of our predicted movement. A Medium risk profile would take-profit at 75% of our forecast move and their stop-loss at a decline of 30% of our forecast. A Low-risk profile would, in a typical scenario, set an end-user's **take-profit** level at 50% of our forecast and the stop-loss at a 15% decline point. In addition to the pre-set profiles, each brokerage firm could choose to let their set their specific levels, outside of the "canned" versions. All of these levels could be accompanied by "rolling" stop-losses and take-profits which would move up or down in accordance with the price movement of the particular stock. In other words, the user could determine to take no profit at our forecasted level, expecting the

stock to move even further (up or down). Simultaneously, the stop-loss levels would move upward or downward in proportion to the actual price movement. This feature, which is often called, "tightening the stops," and is currently available, but has not been available in conjunction with the scientifically generated suggested take-profit or stop-loss of particular embodiments of the present invention.

[Para 35] In order to generate as many trading opportunities for as possible for users of the present invention, the present invention incorporates increasing the frequency of forecasts. The prior art neuro-analytical financial engine only published "Buy", "Sell", or "Hold" recommendations for the next day's close. These forecasts were generated from the OHLC ("Open", "High", "Low", "Close") data from the day just ended. The present invention increases the frequency of the forecasts, ultimately to approach real-time forecasts and limited only by band width and processing power. Secondly, instead of implementing a simple Buy, Sell, Hold forecast, like the prior art, the present invention recommends an actual dollar price.

[Para 36] The present invention also calculates and displays confidence levels relating to the **confidence in the direction of price movement**, but also anticipates not the magnitude. An optional embodiment of the invention in addition to the above output data implements magnitude confidence levels.

[Para 37] One of the key factors in successfully implementing the present invention is the selection of the data to analyze and selecting the correct manipulation of that data. Initially, it is useful to consider the concept of the data components of **factors**, **operators**, **advisors**, and overlay advisors or **meta-advisors** as they are implemented in the present invention.

[Para 38] Component Class Functional Tables Used

[Para 39] Factor: Array (Numerical Data, Correlation): The first component of factors may be a stock price or collection of data.

[Para 40] Operator: Mathematical or logical function, transforms a factor into recognizable data.

[Para 41] Base-Advisors Bayesan Logic Modules; determines inclusion or exclusion of transformed data for a number of circumstances.

[Para 42] Meta-Advisor: Set/Fuzzy Logic with adjustable parameters; analyzes multiple base advisors

[Para 43] Risk Management Override Boolean the override is a monitor that continually assess market conditions and will generate a stop-loss/take-profit instruction when needed.

[Para 44] Choosing from a large number of more specifically targeted inputs to populate the **parameters** which include the factors and the set of operators that will be used. The major obstacle was that there literally tens of thousands of possible candidates for inclusion in the model.

[Para 45] The present inventions obtain a complete global data set for research. The initial data set was chosen from those data items the ones best suited for the general stock forecasting needs, as opposed to being limited to mutual funds or other items. The development of the invention called for analyzing and making forecasts for a basket of 50 stocks. The inputs most closely correlated to the expected **price movement** of the basket stocks. These inputs consisted of other stocks in the same industry as some of our target stocks, market indices, sector indices (such as SOX) certain commodity prices and fixed income futures prices.

[Para 46] For example, as may be appreciated by those skilled in the art, interest rates, and interest expectations, drive all financial markets. Therefore there must be a **connection to interest rates** included among the factors. They also "lead" the markets temporally, thus acting as an "early warning" or leading indicator of market moves that are about to occur. Certain interest rate securities or derivatives reflect the current demand for borrowing and the relationship of that demand to the currently available supply of money for lending. Other interest rate securities and derivatives are more useful in determining the market participants' expectations of interest rate movement, and the possible magnitude of that movement, in the future.

[Para 47]   Stop-loss/profit recommendations a lot outclassed America to be provided with meaningful recommendations as there may be functionally dynamically generated information it. Specifically to each of the current market environments. Stop-loss and take-profit levels are not a fixed distance from the recommended price and tree but dynamically adjusted with each new prediction, sometimes with a particular relationship (positive correlation) to the current price, sometimes another (such as a negative correlation).

[Para 48]   The customer is passively presented with a scientifically calculated stop-loss and take-profit waits a canned choice to accept are not savvy trader users can. The present invention allows customers to automatically load the alert function based upon me stop-loss and/or take-profit recommendations. These recommendations can be teamed or adjusted to meet specific savvy trader objectives as well as other platforms for example the take-profit recommendations been a more conservative, to help ensure that read to customers cash or profit more frequently pay additional ain't

[Para 49]   Additional customers will be able to see at a glance predicted that is that are most important e.g. it does it affect the securities that they are all contracted for considering tree that are no indicators or operators to understand. In general factors are selected for inclusion in particular applications and generally consist of financial instruments that the is there as determined have a relationship directly and indirectly to the price action of the instruments the way is you wish is to trade our hat these relationships may be measured as either negative or positive correlations which may make up the optional third part of the awry. The objective is teasing on if system to process time series data far any of said that man's self-serve as a leading or lagging indicator. Any valid relationships and appendices include those that are not here will be detected in use by the system to learning mechanisms contributing to the accuracy of each prediction task.

[Para 50]   The present invention has the ability to allow a trader to "auto-populate" the trade execution screen based on forecasts.

[Para 51]   The real-time input required for the "stock market specific" version of the product incorporates many other asset classes, as the futures and even options that are

9

at the root of the markets make the best indicators of change for the project. The invention also includes the novel presentation or view of the product as a redirection engine that incorporates real-time input and is capable, with different sets of input information, of price and direction, buy, sell, hold, and confidence in a great many asset classes including but

[Para 52] As can be appreciated by those skilled in the art, the invention is not limited to foreign exchange, fixed income, futures and options.

[Para 53] The applicant invention in place intelligent two-tier based agents also referred to as advisors to capture and model dynamic changes in information at run time. Technical Analysis: This rule assumes that stock prices are not random walks and that past trading behavior will provide enough information for future price behavior.

[Para 54] The invention may include a **super adviser** which is an integral part of the system architecture meta- adviser or high-level adviser or has a contrary adviser which always bets against it. Forget is not at a given time these adviser is a five to be more or less relevant to future prediction is.

[Para 55] Overlay advisors include the surprise overlay adviser which annihilate the difference between actual close in predicted close. Momentum overlay adviser which reading this the total change in the last ATL day's, and analysis prediction in overlay adviser which reading the signals from mid-level pattern analysis advisors to approximate the population is a trader is correlated with fouling and or fading them. Buying Pressure Overlay Advisor proprietary Spectrum indicator that adjust for trading versus chomping movements. PIVOT point overlay adviser proprietary daytrading system related to distance from three Day pivot points. The balance overlay adviser estimated bulls estimated bears as to turn from the review of pattern analysis routine is.

[Para 56] The base advisors B-AD are generally a collection of machine learning systems and can be implemented for other applications outside of financial market theories. The adviser is process specified factors indicators and trading systems that are reflective of specialized criteria of the present application. All of the advisors is review raw times series data with the base advisors also reviewing the output of the

indicators processed raw data the opinions of each of the adviser is our reviewed in combine the super adviser using machine learning for what is termed in the present invention as a consensus. Resulting predictions are compared against actual price activity and advisors are rewarded are punished according to the accuracy of the contribution to the consensus.

[Para 57] Another example is the nearest neighbor adviser which fineness the historical precedent which best matches the current situation and reason my analogy with that situation in to make the decision The **Decision tree adviser**: the present invention uses the decision tree which explains 90% of past price movement as a function of the operators. Across the decision tree represents patterns that predict the past. In the security the decision tree adviser uses the current decision tree to make its forecast for that security. The **Joe Adviser** is a daytrading system developed by Joe D. Napoli in the book trading with the within "Dinapoli" levels. The **FIBO adviser** is a system that combine this neural net with a traditional Fibonacci retracement analysis. **The Equity trading adviser** equity daytrading is a study that uses all current coated indicate years with a proprietary scoring system. **Mutual fund trading adviser** to proprietary mutual fund daytrading system

[Para 58] Each of the base-level advisors B-AD, is part of a reward and punishment system. In this context as described above rewarded and punished are terms that are indicative of the importance the advisors are given subsequently.

[Para 59] In FIG. 2, four representative insertion points show how the invention works with proprietary software unrelated to the present invention. The insertion points are critical in that they provide the "engine" described above with the fuel to allow effective predictions and loss prevention. Six sample advisors are shown in FIGS. 1 and 3, but as described below and included in Appendix many other types of advisers can be implemented.

[Para 60] Referring now to FIG. 5, a sample system for adjusting the operators or indicators is shown. The operators are generally mathematical and/or logical functions that transform the array data or factor data. Stored pre-defined or *ad hoc* selection of operators may be dependent of the class of the asset, but may also be chosen based

on other factors, such as market conditions, etc. The pool of operators may be expanded as is partially listed in FIG.10.

[Para 61] Referring now to FIG. 6, a sample data flow of the invention is an alternate form is shown.

[Para 62] Referring now to FIG. 7, a factor or initial data array use an adjustment system is shown. Factors are selected for inclusion in a particular application ad may include financial instruments that the inventor and/or machine learning have chosen to determine to have a relationship to the desired output recommendations or predictions. The relationships may be adjusted over time as positive or negative correlations to the desired output. The selection of these data arrays for particular applications is critical for the success or failure of particular embodiments of the invention as is discussed below and shown in Appendix A as well as the materials included in Appendix A.,

[Para 63] Referring now to FIG. 8, a sample output series of display screens is shown, although the invention is not limited to any particular type of output, these screenshots illustrate some of the relevant features. For example, in many embodiments the confidence statistic or results in this an important part of the commercial desirability. Confidence can be measured along several different lines as having described below.

[Para 64] The present invention in a preferred embodiment includes several types of confidence level output which is shown in FIG. 8. For example, Confidence level-A is a Normalized Scale from 1-10 that indicates the predicted of a movement of a commodity and/or equity. Another type of confidence level-M, which is confidence in the change of the magnitude is also normalized on a Scale 1-10 (but not shown in FIG. 8)

[Para 65] The present invention takes advantage of numerous techniques and features which would lead to significantly increased trading volume in order to benefit the brokerage firms by giving them a competitive advantage within the active trader community. For example, writing it specifically for the stock market would omit such markets as Foreign Exchange, Fixed Income, Futures, Options and other asset classes,

12

all of which lend themselves to the powerful analytical capabilities of the base invention. The invention would provide many advantages to target markets by implementing the real-time capability as non-asset specific. Every asset class has its own set of technical indicators and inputs similar to the stock market.

Below is shown sample data output (not related to FIG. 8) that shows the operational features of the present invention. Those skilled in the art will appreciate that this data is representative of some of the capacities of the present invention but should in no way be limited to the data represented below.

[Para 66] OUTPUT 1

[Para 67] "Ordered Trades (long and short):"

[Para 68] ((NVDA -0.59 0.58055854 10) (BBH -2.3899999 1.5906973 10) (DCGN -0.28 0.48265606 10) (IWM -0.9 1.3383011 10) (MER -0.7 0.7508018 10) (DELL -0.53 0.51756924 10) (IBM -0.64 0.9412986 10) (RJR 0.68 0.7078549 10) (ET -0.26999998 0.2892276 10) (EBAY -1.38 1.1716574 8) (EK 0.31 0.5306482 7) (DIA -0.65 0.71167386 5) (CSCO -0.35 0.52063775 5) (PMCS -0.42999998 0.64616877 4) (EMC 0.29 0.28052995 4) (NT -0.22 0.27010044 3) (JNJ -0.42999998 0.46970314 3) (GS -1.25 1.2996379 3) (MO -0.34 0.5604123 3) (LUV -0.21 0.30833358 3) (AMTD 0.35999998 0.42054433 3) (TRAD -0.14 0.26685566 3) (IVGN -1.02 1.2453798 3) (MACR -0.29999998 0.49272728 2) (ORCL -0.19 0.22886491 2) (RFMD -0.17 0.3745882 2) (AMZN -1.29 1.235272 2) (GE 0.21 0.3864143 2) (MSFT -0.24 0.27343392 2) (EWJ 0.08 0.12692635 2) (GM 0.48999998 0.6990766 2) (SPY -0.96 0.79854697 2) (QQQ -0.64 0.41694745 2) (MWD -0.61 0.82731616 2) (BAC 0.68 0.6573803 2) (AXP 0.32999998 0.5093239 2) (WMT 0.59 0.67492133 2) (PFE -0.28 0.4087835 1) (SLR 0.17999999 0.21089374 1) (INTC -0.38 0.55482894 1) (BRCM 1.0 1.0360907 1) (MMM -0.82 1.0477368 1) (AMGN -0.84999996 0.85093194 1) (AGRA 0.089999996 0.1353456 1) (JDSU -0.08 0.15793625 1) (AMR 0.44 0.4752189 1) (F -0.19999999 0.3006487 1) (RIMM 2.11 3.1781144 1) (LU 0.099999994 0.12505732 1) (JNPR -0.71999997 0.97768885 1))

[Para 69] "Long Trades:"

13

[Para 70] ((RJR 0.68 0.7078549 10) (EK 0.31 0.5306482 7) (EMC 0.29 0.28052995 4) (AMTD 0.35999998 0.42054433 3) (GE 0.21 0.3864143 2) (EWJ 0.08 0.12692635 2) (GM 0.48999998 0.6990766 2) (BAC 0.68 0.6573803 2) (AXP 0.32999998 0.5093239 2) (WMT 0.59 0.67492133 2) (SLR 0.17999999 0.21089374 1) (BRCM 1.0 1.0360907 1) (AGRA 0.089999996 0.1353456 1) (AMR 0.44 0.4752189 1) (RIMM 2.11 3.1781144 1) (LU 0.099999994 0.12505732 1))

[Para 71] "Short Trades:"

[Para 72] ((NVDA -0.59 0.58055854 10) (BBH -2.3899999 1.5906973 10) (DCGN -0.28 0.48265606 10) (IWM -0.9 1.3383011 10) (MER -0.7 0.7508018 10) (DELL -0.53 0.51756924 10) (IBM -0.64 0.9412986 10) (ET -0.26999998 0.2892276 10) (EBAY -1.38 1.1716574 8) (DIA -0.65 0.71167386 5) (CSCO -0.35 0.52063775 5) (PMCS -0.42999998 0.64616877 4) (NT -0.22 0.27010044 3) (JNJ -0.42999998 0.46970314 3) (GS -1.25 1.2996379 3) (MO -0.34 0.5604123 3) (LUV -0.21 0.30833358 3) (TRAD -0.14 0.26685566 3) (IVGN -1.02 1.2453798 3) (MACR -0.29999998 0.49272728 2) (ORCL -0.19 0.22886491 2) (RFMD -0.17 0.3745882 2) (AMZN -1.29 1.235272 2) (MSFT -0.24 0.27343392 2) (SPY -0.96 0.79854697 2) (QQQ -0.64 0.41694745 2) (MWD -0.61 0.82731616 2) (PFE -0.28 0.4087835 1) (INTC -0.38 0.55482894 1) (MMM -0.82 1.0477368 1) (AMGN -0.84999996 0.85093194 1) (JDSU -0.08 0.15793625 1) (F -0.19999999 0.3006487 1) (JNPR -0.71999997 0.97768885 1))

[Para 73] "Factor Forecasts:"

[Para 74] (($OEX -3.76 3.9945574 10) (C 0.32 0.4668479 10) (JPM -0.53 0.38875616 10) ($IXF 14.639999 45.875294 10) ($OIX -2.87 2.9445841 10) (DNA -2.1399999 1.5705947 10) (AA 0.53 0.69572103 10) (HD 0.31 0.4644559 9) ($PSE -8.51 8.228567 9) (CY -0.29999998 0.44947505 9) ($TRIT -0.53999996 0.8132198 9) ($XAU 2.3799999 2.0512803 9) ($XMI -4.64 6.8969135 8) (MRK -0.35 0.6085382 8) ($MOX -0.19 0.20609091 8) ($VIX 0.68 0.9032603 8) ($TYX 0.29 0.47938484 8) ($IXCO -8.87 13.455776 8) ($NDX 12.309999 17.681053 7) (KLAC -0.71999997 1.0593249 6) ($SOX 7.7999997 9.652003 6) (HPQ -0.32 0.42573407 6) ($RUT -5.0699997 6.683315 6) ($SPX 4.7999997 7.992286 6) ($RUI 2.59 4.2506285 6) (CAT -1.12 1.188255 6) ($TRIN -0.57 0.6360811 5) (DD -0.41 0.49481577 5) ($OFIN 32.07

41.15187 5) ($MSH -6.89 6.6181483 4) (XOM -0.32999998 0.39069107 3) (AMD -0.44
0.43208045 3) ($SXV 0.52 0.81607336 3) (NOK -0.26 0.5869697 1) (SCH 0.19999999
0.23420261 1) ($OSX 1.4499999 1.5517198 1) ($BKX 72.85 90.33106 1))

[Para 75] "TOP 10 Indicators [Operators] Used: "((" facilitation streak". 6.207102) ("
weird trader's formula" . 6.1357546) (" Standard Deviation of change" . 5.7111616) ("
Joe predictor   " . 5.4989996) ("last change" . 5.340061) (" Inside bar   " .
5.141086) (" trend clock" . 4.8336005) (" Fidelity indicator " . 4.804117) (" decision tree
advisor" . 4.5749583)("breakdirection" . 4.544185))

[Para 76] ("produced by STOCKO on " "4-7-2004" " at " "13:07:29")

[Para 77] In a first embodiment the invention uses a computer-implemented method
for assisting in an equity trade in which a processor is executing instructions that
perform the following acts: selecting from a group of mathematical operators to
transform a set of arrays located in data storage; performing said mathematical
operations of a set of arrays, such that preliminary data is produced; analyzing said
preliminary data with a first set of Baeysian-logic functions, each with a corresponding
adjustable weights; and determining a recommendation for the equity based on the
above-described Baesyian logic analysis, and reporting the recommendation to a user
as output; and comparing an actual result for the equity to the recommendation and
adjusting at least one of the Bayesian logic functions or modules corresponding weights
for any future recommendation (punishment/reward), and the invention includes setting
an adjustable risk profile for an equity trade.

[Para 78] The adjustable risk profile system is detailed in FIGS. 9 and 10. In FIG. 9,
the selection of the risk profile analysis is depicted in which a user can choose between
pre-defined risk profiles and manually set ones. Of course, as can be appreciated by
the those skilled in the art, different risk profiles can be set to account for different
parameters or circumstances, which may be automatically provided or monitored by
certain embodiments of the invention. FIG. 10 is described above as well.

[Para 79] Optional features of the invention include where the content of the output
further includes using actual dollar prices, the output includes forecasting a specific

price movement for each stock, the output includes with direction of movement, magnitude of movement, and confidence of movement.

[Para 80] Other optional features of the invention include embodiments where the equity trade is not recommended unless said confidence level is above a user-specified target, the equity trade cannot be placed unless said confidence level is above a target level, or the confidence data is normalized, such that it is scaled from 1 to 10 as output. Other optional features include a third-party trading system capable of performing rolling-stop-losses.

[Para 81] In another embodiment, the invention uses a computer-implemented method for assisting in an equity trade in which a processor is executing instructions that perform the following acts: selecting from a group of mathematical operators to transform a set of arrays located in data storage; performing said mathematical operations of a set of arrays, such that preliminary data is produced; analyzing said preliminary data with a first set of Bayesian-logic functions, each with a corresponding adjustable weights; and determining a recommendation for said equity based on said Baesyian logic analysis, and reporting said recommendation to a user as output; and comparing an actual result for said equity to said recommendation and adjusting at least one of said Bayesian logic function corresponding weights for any future recommendation, wherein the invention includes using interest rate data for said stored data arrays.

[Para 82] In a third embodiment the invention uses a computer-implemented method for assisting in an equity trade in which a processor is executing instructions that perform the following acts: selecting from a group of mathematical operators to transform a set of arrays located in data storage; performing said mathematical operations of a set of arrays, such that preliminary data is produced; analyzing said preliminary data with a first set of Bayesian-logic functions, each with a corresponding adjustable weights; and determining a recommendation for said equity based on said Bayesian logic analysis, and reporting said recommendation to a user as output; and comparing an actual result for said equity to said recommendation and adjusting at least one of said Bayesian logic function corresponding weights for any future

16

recommendation, wherein the invention includes setting an adjustable risk profile for at least one equity trader and publishing stop-loss and take-profit levels generated by executable instructions.

[Para 83] Other variations of the invention include where the output ranks multiple equities by confidence level, both on the buy side and on the sell side. The output includes with direction of movement, magnitude of movement, and confidence of movement. The equity trade is not recommended unless said confidence level is above a user-specified target; the equity trade cannot be placed unless said confidence level is above a target level, the confidence data is normalized, such that it appears scaled from 1 to 10 on said output.

[Para 84] The set of arrays include data relating to interest rates, and the set of arrays include data relating to foreign equity markets.